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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,134	05/10/2006	Terry Victor Clapp	2143.000200/KDG	8858

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EXAMINER	
CHU, CHRIS H	
ART UNIT	PAPER NUMBER
2874	
MAIL DATE	DELIVERY MODE
07/25/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/564,134	CLAPP, TERRY VICTOR	
	Examiner	Art Unit	
	CHRIS H. CHU	2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-44* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group II, claims 12-46 in the reply filed on April 10, 2008 is acknowledged.

Information Disclosure Statement

The prior art documents submitted by applicant in the Informational Disclosure Statement filed on January 10, 2006 have all been considered and made of record (note the attached copy of form PTO-1449).

Drawings

Five (5) sheets for formal drawings were filed January 10, 2006 and have been accepted by the Examiner.

Specification

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-14, 20-25, 28-31 and 34-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Doerr (6,212,315).

Regarding claims 12, 28, 29 and 34, Doerr discloses electro-optically tunable optical filter, comprising a first optical transmission medium (103 in Fig. 1); a second optical transmission medium (104 connected to coupler 102); a first optical coupler (102) for coupling portions of the first and second optical transmission media; an optical demultiplexer (106) coupled to the second optical transmission medium; a plurality of non-waveguiding electro-optic phase adjusters (108) optically coupled to the optical demultiplexer; an optical multiplexer (107) optically coupled to the plurality of non-waveguiding electro-optic phase adjusters; a third optical transmission medium (104 connected to coupler 105) optically coupled to the optical multiplexer; a second optical coupler (105) for coupling portions of the second and the third optical transmission media; and a control unit (111) coupled to the plurality of phase adjusters.

Regarding claims 13, 14, 30 and 31, Doerr discloses in the optical filter formed on a planar waveguide platform formed from semiconductor materials in column 4, lines 28-52.

Regarding claims 20, 35 and 36, Doerr discloses the control unit capable of providing a signal indicative of a desired phase change to a phase adjuster in order to produce a filtered transfer function in column 2, lines 57-61.

Regarding claims 21-25, Doerr discloses the demultiplexer adapted to provide light in a plurality of selected frequency bands to the phase adjusters, the multiplexer

adapted to receive light in the plurality of selected frequency bands from the wave adjusters and the demultiplexer and the multiplexer forming a single device in Fig. 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 26, 27, 37-40, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr (6,212,315).

Regarding claims 26, 27 and 37, Doerr teaches the claimed invention except for a mirror and wave plate coupled to the phase adjusters. However, it is well known in the art to use a mirror to reflect a signal back along the path it is input from which allows the signal to be output from the same set of components it was input from. Further, using a wave plate such as a quarter wave plate in conjunction with a mirror is well known to reduce birefringence. As such, one having ordinary skill in the art at the time the invention was made would have found it obvious to use a mirror along with a wave plate for the purpose of saving space by not requiring another set of components to output the signal and not having to align said components.

Regarding claim 38, Doerr discloses the first and second optical transmission media to be waveguides in Fig. 1.

Regarding claims 39 and 40, Doerr discloses in the optical filter formed on a planar waveguide platform formed from semiconductor materials in column 4, lines 28-52.

Regarding claims 43 and 44, Doerr discloses the control unit capable of providing a signal indicative of a desired phase change to a phase adjuster in order to produce a filtered transfer function in column 2, lines 57-61.

Claims 15-19, 32, 33, 41 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doerr (6,212,315) in view of Clapp (EP 1,065,534).

Regarding claims 15, 32 and 41, Doerr teaches the claimed invention except for specifically stating the details of the phase adjusters. Clapp discloses phase adjusters comprising first and second optical transmission means (32 in Fig. 3), a slot (36) disposed adjacent to the transmission means being adapted to receive an electro-optically active element, and at least one electrode (35) proximate the slot adapted to provide a portion of a variable electric field within the slot. Since both inventions relate to electro-optic phase adjusters, one having ordinary skill in the art at the time the invention was made would have found it obvious to use the phase adjusters disclosed by Clapp in the tunable optical filter disclosed by Doerr for the purpose of providing a phase adjuster with enhanced sensitivity.

Regarding claim 16, Doerr teaches the claimed invention except the slot having at least one curved edge. However, since the slot is formed inside the waveguide and on the substrate, the edges of the slot are determined by the shape of the faces of said waveguide and substrate. As such, depending on the geometrical configuration of the

waveguide and substrate, one having ordinary skill in the art would have found it obvious to form the edges of the slot to match it and form a slot having any shape, including curved edges.

Regarding claims 17 and 18, Clapp discloses the first and second optical transmission means to be waveguides in Fig. 3.

Regarding claims 19 and 33 and 42, Clapp discloses the electro-optically active element to be a polymer-dispersed liquid crystal in paragraph 0021.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chris H. Chu whose telephone number is 571-272-8655. The examiner can normally be reached on 8:30 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general or clerical nature should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562.

/Chris Chu/
Chris H. Chu
Patent Examiner
July 9, 2008

/Michelle R. Connelly-Cushwa/
Primary Examiner, Art Unit 2874